

INTEGRAL™
core™

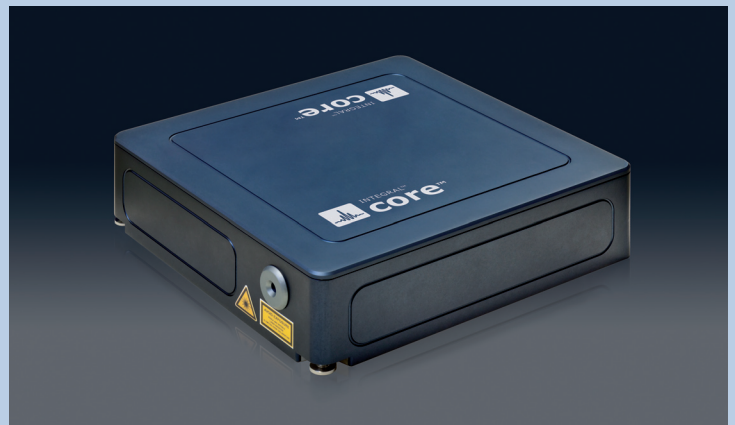
| **compact & robust** |

| **true ultrafast with ease** |

| **ultra stable** |

Applications

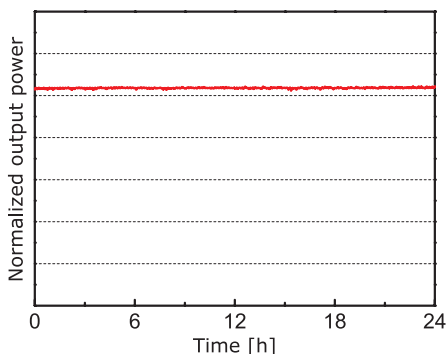
- THz spectroscopy & imaging
- Multiphoton microscopy & imaging
- Optical coherence tomography
- Time resolved spectroscopy
- Nonlinear optics
- Thin-film metrology



Ti:Sapphire lasers occupy the leading position in ultrafast technologies. Their dimensions, cost and complexity have driven users to alternative technologies, at the expense of critical output parameters, e.g., short pulses, bandwidth, low noise, high peak-power, and stability.

Limitations in laser parameters are no longer necessary, as FEMTOLASERS defines a novel ultrafast laser class: **INTEGRAL™ core™** offers Ti:Sapphire technology in a revolutionary compact and robust package.

State-of-the-art output parameters combined with hands-off turn-key performance and low cost of ownership make the INTEGRAL™ core™ the choice for everyday use in scientific, medical, and industrial applications. Experience **true ultrafast with ease** Ti:Sapphire quality from this ultra compact cost effective laser.



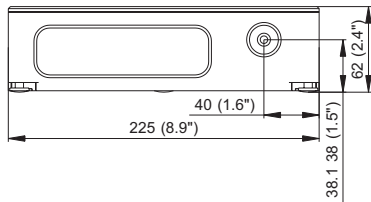
Power stability over 24 hours: 0.23% (rms)

World's most compact ultrafast Ti:Sapphire laser

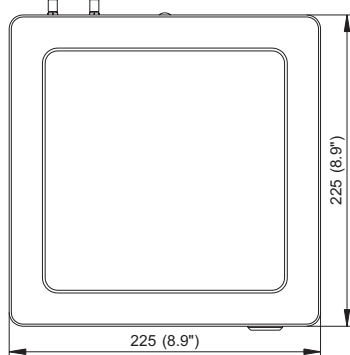
core Features

- Compact
- Hands-off turn-key operation
- Sealed cavity
- Power stability control
- Ultra low noise
- Temperature stabilized
- Low cost of ownership

INTEGRAL™ core™ - FRONT VIEW, Dimensions in [mm] ([in])



INTEGRAL™ core™- TOP VIEW, Dimensions in [mm] ([in])



INTEGRAL™ core™

Performance

INTEGRAL™ core™ features FEMTOLASERS' patented Dispersive Mirror (DM) technology for precise dispersion management. The Extra Cavity Dispersion Control (ECDC) unit guarantees high quality, outstanding peak power, true near transform-limited ultrafast pulses.

Stability & Reliability

The revolutionary compact and sturdy, high repetition rate laser cavity (patent pending) enhances the passive stability by effective environmental isolation. From scientific labs or medical facilities to factory floors, core performance is now available.

Compactness

Innovative oscillator concept and pump module integration support the highest peak power in a compact design. This brings the INTEGRAL™ core™ to previously unthinkable dimensions for lasers in its class.

With a footprint smaller than this brochure and ultra light-weight, the oscillator can be easily integrated in devices requiring ultrafast at their core.

SPECIFICATIONS	INTEGRAL™ core™ PRO	INTEGRAL™ core™ 20	INTEGRAL™ core™ 50
Pulse duration	< 10 fs	< 20 fs	< 50 fs
Spectral width (FWHM) @ 800 nm ± 10 nm	> 100 nm	> 40 nm	> 15 nm
Mode-locked output power (avg.)	> 100 mW	> 150 mW	> 200 mW
Repetition rate	340 MHz	340 MHz	340 MHz
Peak power	> 29 kW	> 22 kW	> 11 kW
Center Wavelength	800 nm ± 10 nm		
Beam diameter (1/e ²)	< 1 mm		
Beam divergence	< 1 mrad		
Polarization	> 90:1 (horiz.)		
Noise (measured at 10 Hz - 100 KHz)	< 0.05 % rms		
Power stability ¹⁾	± 1%		
Warm-up time	< 5 min.		
1) Measured over 24 hours after 5 min. warmup at constant environmental conditions	All specifications are subject to change without notice		



FEMTOLASERS Produktions GmbH
 Fernkorngasse 10 | 1100 Wien | Austria
 P: +43 1 503 7002 0
 F: +43 1 503 7002 99
 info@femtolasers.com

FEMTOLASERS, Inc.
 1 Mifflin Pl. | 119 Mt. Auburn St. | Suite 400
 Cambridge | MA 02138 | USA
 P: +1 978 456 9920
 F: +1 978 456 9922
 info@femtolasers.com



FEMTOLASERS' laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by Center of Devices and Radiological Health on all systems ordered for shipment after October 1, 2003.